

uth-  
Rhodesia

COPIES

RECEIVED  
LIBRARY  
1871

ACCOUNT OF MR. BAINES'S EXPLORATION

OF THE

GOLD-BEARING REGION

BETWEEN THE

LIMPOPO AND ZAMBESI RIVERS.

PREPARED FROM MR. BAINES'S JOURNALS

By ROBERT JAMES MANN, M.D., F.R.G.S., F.R.A.S.,  
ETC., ETC.

---

WITH A MAP.

[*Read before the Royal Geographical Society of London,  
March 13, 1871.*]

---

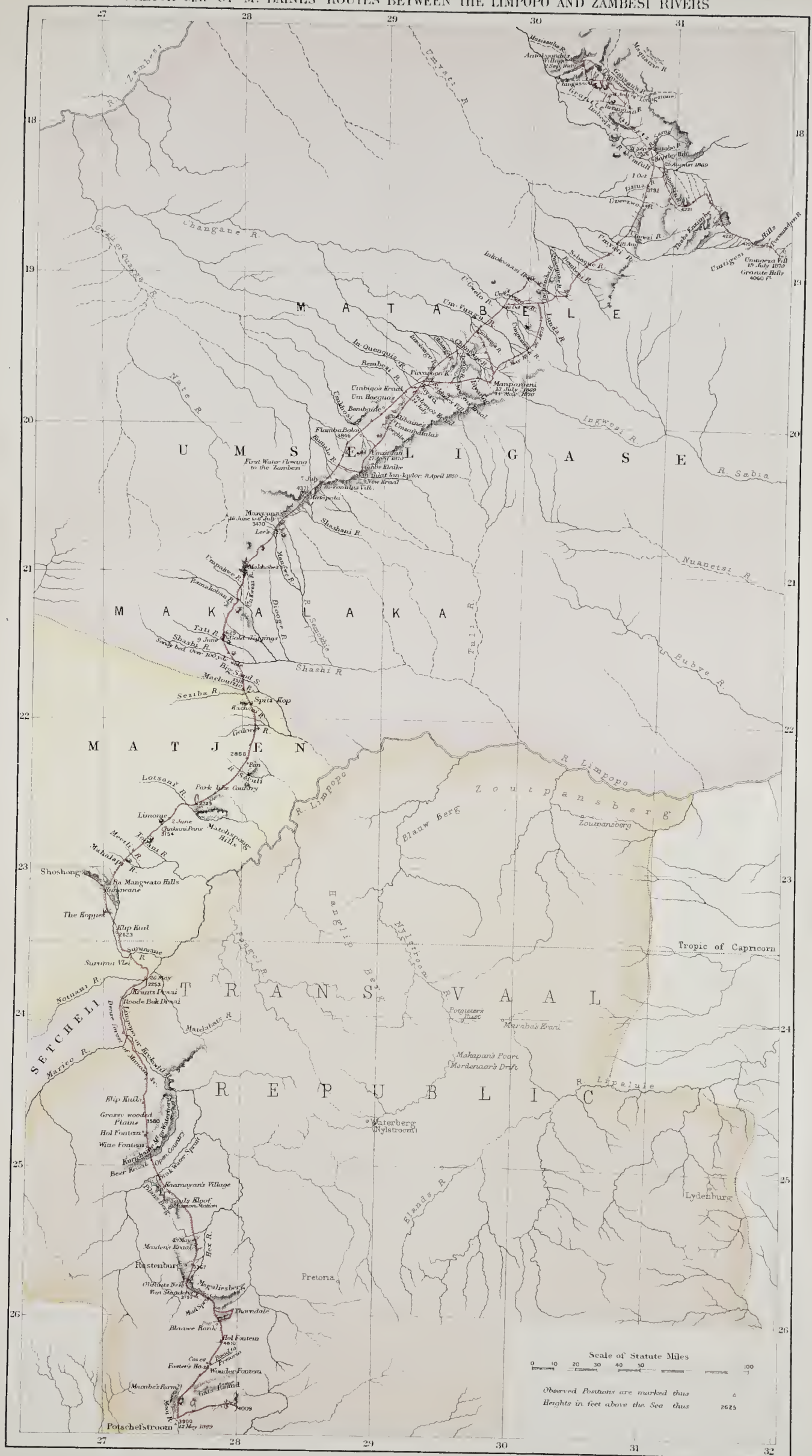
LONDON: PRINTED BY WILLIAM OLOWES AND SONS, STAMFORD STREET,  
AND CHARING CROSS.





Digitized by the Internet Archive  
in 2018 with funding from  
Columbia University Libraries

SKETCH MAP OF MR BAINES' ROUTES BETWEEN THE LIMPOPO AND ZAMBESI RIVERS



EXPLORATION  
OF THE  
GOLD-BEARING REGION  
BETWEEN THE  
LIMPOPO AND ZAMBESI RIVERS.

---

AT the close of the year 1868 arrangements were made by a small association of gentlemen in London for carrying out a careful exploration of the district between the Limpopo and Zambesi rivers, in South Africa, which had then recently been visited by the German traveller Carl Mauch, with a view to determine its actual character and value as a gold-bearing region. Mr. Thomas Baines, the gentleman already so favourably known to the Royal Geographical Society for his travels in Southern and Central Africa, and for his very clever illustrative sketches and paintings of African life and scenery, was appointed to take charge of the expedition of the association. The party left England in the steamship *Asia*, on the 19th day of December, 1868; passed through the colony of Natal in the month of February, 1869; and, having traversed the Orange River Sovereignty and the Transvaal Free States, entered the region more immediately forming the object of their exploration, by crossing the Marico River frontier of the Transvaal States. The party consisted of four Europeans—Messrs. Baines, Nelson, Jewell, and Watson—of whom one, Mr. Nelson, was an experienced mineralogist, long conversant with all matters relating to mining for gold. They travelled with two waggons, and native servants. After procuring letters of commendation to the native chiefs from the Lieutenant-Governor of Natal, Mr. Baines painted the Royal arms of England upon his waggons, in imitation of the impression upon the large seal



which he was able to exhibit on the Lieutenant-Governor's credentials; crossed the Macloutzie River, and entered the Makalaka country, within the 22nd parallel of south latitude, and therefore beyond the northernmost stretch of the Limpopo River. The party subsequently passed the highest ground forming the actual watershed between the Limpopo and Zambesi system of rivers, and encamped on the Kumalo River (also called Ihena Indoda), the first named tributary of the Zambesi; and, leaving one waggon there in reserve, Mr. Baines and Mr. Nelson travelled on with the other through the Matabele country, until, on the 3rd of September, they were close to the 17° 30' parallel of south latitude, amidst old Mashona diggings for gold, upon the Muzisaulie River, a tributary of the Umfuli, which falls into the Zambesi River a little to the west of the 30th meridian of east longitude, being at this spot within 120 geographical miles of the main channel of the Zambesi, both to the north and north-west, and within 200 geographical miles of the trading settlement of Tati, on the north-east. On account of reasons which will be presently told, the party retraced their steps from this point. They returned as far as the Mangwe River, near to the southern Matabele frontier, in the neighbourhood of which place Mr. Baines has since remained.

The chief value of the Journals is unquestionably the very exact description they give of the entire stretch of country, from the Marico—here the main affluent of the Limpopo—to within a hundred miles of the channel of the Zambesi, a course running through the heart of the gold-bearing region, and for 250 geographical miles very nearly following the central line of watershed between the great rivers.

In order to render the geographical characteristics of this elevated gold-bearing region more readily intelligible, a brief sketch of the general contour of the land of this part of South Africa will be useful. From the 29th parallel of south latitude, near to where it is intersected by the 24th meridian of east longitude, the Great Orange River runs approximately westwards to the Atlantic Ocean for 400 geographical miles, forming the frontier of the British territory of South Africa through its entire extent. To the eastward of this point the Orange River forks, until the end of each branch of the fork is barred by the Drakenberg Range, or rather ledge, of mountains. The land between the two branches of the fork, which are the Vaal River on the north, and the Orange River on the south, is the Orange River Sovereignty, and the country of Moshesh, which has been quite recently taken under the

protection of the British Government. Seawards, or eastwards, of this part of the Drakenberg Range is the colony of Natal. Northwards, the Drakenberg Mountains push up the channel of the Limpopo River into a broad horse-shoe sweep, in the interior of which lies the Transvaal Republic, bounded northwards and eastwards by the Limpopo for some 300 miles. The eastern boundary of the Republic is completed southwards by the Hart River,\* whose sources almost mingle with those of the Marico, which runs down into the Vaal, some 70 miles above the confluence of that stream with the Orange River. The newly-discovered Diamond Region lies as a kind of basin around this confluence, extending some distance upwards along both the Hart River and Vaal River, and downwards along the main channel of the Orange River. As the Orange River Sovereignty lies between the Orange River and the Vaal River, the Transvaal State lies mainly between the Vaal and Hart Rivers, and the Limpopo. The coast region northwards of Natal, and seaward of the Transvaal Drakenberg, is occupied by the country of the Zulu and Amaswaze Kafirs. Where the northern point of the Drakenberg pushes the Limpopo the furthest to the north, that river sweeps broadly from east to west almost along the 22nd parallel of south latitude, both its sources and its mouth being near the 25th parallel. This northernmost sweep of the Limpopo is divided from the Zambesi by a breadth of about 360 geographical miles.

When Carl Mauch first visited this region he made his way into it by crossing the Limpopo, near the north-eastern corner of the Transvaal, and by then traversing obliquely the wild district to the north of the great river. The more easy and natural route is that which is commonly taken by the elephant-hunters, and which was followed by Mr. Baines on this occasion. It runs from Potchefstroom across the Magaliesberg, and nearly due north to the point where the Notuani River enters the Limpopo. By crossing the Marico and Notuani Rivers, the western, or outer side of the Limpopo is at once taken, and the great river in this way so outflanked that it has not to be crossed. The route then runs through Setcheli's and Matjen's country, until it reaches the Macloutzie River, a large affluent of the Limpopo, joining the main stream, where it bends off to the east, to make its great transverse bend, just without the 22nd parallel of latitude.

Immediately after the Macloutzie is crossed, the Makalaka

---

\* These boundaries are considerably altered by the annexation of the Diamond Fields by the British Government.—[Ed.]



country is entered; and here the route climbs directly to the main line of watershed which runs from south-west to north-east, and constitutes the high backbone that lies between the Limpopo and Zambesi. For nearly 200 miles it hugs the small streamlets that form the head-waters of the affluents of the Limpopo: that is, so far it keeps just on the Limpopo side of the central ridge; then it passes to the Zambesi side, and engages itself with the small streamlets that form the head-waters of the affluents of the Zambesi, and continues among them so far as this exploration was carried. This great ridge is very lofty in places; there are heights upon it that are more than 7000 feet above the sea-level. From the region of the tropics it runs, in a north-easterly course, to within the 19th parallel of south latitude, where it attains its most marked elevation; it then turns directly to the east, following the general course of the Limpopo and Zambesi, midway between them, until, at 150 miles from the coast of the Indian Ocean, where it looks down over Marico and Sofala, it fingers out exactly as the salient spur of the Drakenberg does in the colony of Natal, and gives rise to a series of secondary coast-rivers which enter the sea between the mouths of the Limpopo and Zambesi. From the commencement of the eastward bend, at the spot marked in Petermann's map as the Matoppo Berg (in all probability more correctly the Intaba Matoppo), another branch of the elevated ridge runs upwards to the north-west, extending in that direction, along the westward side of the Valley of the Zambesi, quite to the Mossamba Mountains, and to the spot where the Congo begins its westward flow to the Atlantic. This high land, extending from the neighbourhood of Marico upwards to the Mossamba Mountains, and downwards to the Kalahari Desert, and the mid-channel of the Orange River, and so determining the course of the Zambesi and Limpopo rivers, is obviously the key to the physical geography of this southern segment of the great African continent, and therefore, on this ground, a feature of surpassing geographical interest. From the Tropic southward, the highest upheaving of the African land lies within 150 miles of the Indian Ocean, stretching through the Drakenberg, the Stormberg, and the Nieuveld Berg, almost to St. Helena Bay; giving the long course of the river-drainage almost from ocean to ocean, from east to west. But above the Tropic the case is exactly reversed; the summit-elevation of the line of watershed lies within 300 miles of the Atlantic, and the long course of the river-drainage, almost from ocean to ocean, lies from west to east. The course of the Zambesi extends in this direction more than 1200 geographical



miles. Beyond, and within the 15th parallel of south latitude, from the region of Lake Nyassa, through the chain of Kili-  
mandjaro and onward to the Abyssinian mountain-system, the rule of the eastern highlands again becomes established, as if in continuation and grander development of the Drakenberg; but the Zambesi cuts a mighty gap in the otherwise continuous eastern chain, and establishes the one great exception to the leading rule. This gap is made immediately to the north of the high tract which was the immediate object of Mr. Baines's exploration, and which is, therefore, an object of concentrated geographical interest.

On his way up the Matabele country, Mr. Baines paid a passing visit to Matjen, the chief of the Bamangwato tribe, at his chief kraal, called Shoshong. The general northward route was deviated from, in order to do this, by about 10 miles, the path leading westwards through a broad valley filled with ripe corn rippling in the breeze.

On leaving Shoshong, Mr. Baines's party moved on to the Macloutzie River, which was crossed on the 7th of June, and on the following day reached the Tati River. They found here several parties of diggers at work, for the most part in shafts between 40 and 50 feet deep, which had been formed through hard rock by boring and blasting. There were heaps of broken quartz piled round the mouths of the pits, and there were slight traces of gold in some of the quartz fragments; but the diggers were mainly aiming at reaching some deeper and richer lode. The latitude of the spot on which these miners were found at work is  $21^{\circ} 26' 26''$  s. The River Tati is the second feeder of the River Shashi, which flows into the northern stretch of the Limpopo near to Zoutpansberg.

After three days' sojourn among the miners at the Tati, Mr. Baines once more started towards the north, and, after five days' travel, reached the River Mangwe, where an Englishman, named Lee, resides, and acts as the accredited agent of the Matabele tribe. On the following day he came to Manyama's place, which is the first outpost of the Matabele country.

Between the Macloutzie and the Mangwe Rivers the country is occupied by a tribe of people known as the Makalaka, who also extend along its affluents and down the Shashi River to its confluence with the Limpopo River on the Transvaal frontier. Allusion is frequently made in Mr. Baines's narrative to Kafirs of this tribe, but no mention is anywhere made of a supreme or very powerful chief. The Makalaka obviously stand in the position of entire subjection to their powerful neighbours on the north, the Matabele, who have been essentially an aggressive

and warlike tribe during the rule of Umseligase; and, curiously enough, the Matabele seem to have derived this warlike spirit from the Zulu tribe, which has been the great focus of aggressive energy on the south-eastern coast of the African continent. An old Matabele told Mr. Baines of four well-known instances of independent warlike tribes formed by offshoots from the Zulus in the time of Chaka. Umseligase's case was one of these. He went off from the Zulus with a considerable following, and founded the Matabele tribe in the position it now occupies upon the high grounds between the Limpopo and Zambesi. The Amazetu, who are found towards Lake Nyassa, were spoken of as another instance. They took their name from Umsitu, a Zulu or Amaswase chief, who crossed the Zambesi in that direction.

On the 6th of July Mr. Baines started, with Mr. Lee and the two messengers, who were of the rank of indunas, or head-men, for Um-Numbata's place. The Mangwe River is the last affluent of the Limpopo which is passed upon this route.\* They accordingly came, after traversing about 12 miles, upon the central line of the watershed which divides the Limpopo and Zambesi system of rivers. They halted on the exact crest, in a poort between hills formed of immense blocks of stone. The aneroid barometer at this spot was standing at 24·64 inches, and the boiling-point of water was at 204·1° Fahrenheit. Comparing the pressure of the air with the mean pressure at my observatory in Pietermaritzburg, Natal, derived from a series of eight years' observations, namely, 27·893 inches, this would give an approximate elevation for the pass of 2957 feet above my observatory, and 5052 feet above the sea-level. The ground was commonly crisp with frost during the night at this part of the journey, the period being the early part of the month of July. The greatest cold observed at night was 24·5°; more frequently the night temperature stood between 31° and 32°. The temperature of the day generally rose somewhere between 66° and 74°. The passage of the crest was made close to a large hill, which was spoken of as Matopola, and as Nogobhe's place. The latitude was fixed at 19° 42' 49" south. The pass is about 80 geographical miles, a little east of north, of the Tati River.

On the 8th of July, Mr. Baines reached the Kumalo River, the first distinct affluent of the Zambesi. The route now ran nearly parallel with the crest of the watershed, but just on the Zambesi slope, so that the head-waters of all the tributaries

---

\* This is incorrect, as the Shashani is crossed about 17 miles north-east of the Mangwe; it is the last affluent of the Limpopo.—[ED.]



were passed in succession. On the 12th of July, Mr. Baines crossed the Flamba Baloi River, a name translated as meaning "the King's Bath." This stream is an affluent of the Gwaii, or Tobacco River, the junction of which with the Zambesi Mr. Baines had visited in 1862. He reckoned that he was now, therefore, within about 130 miles of having completed the entire journey across Africa.

On the 14th of July the kraal of Umbigo was reached, a little short of the Im-Pembis River. From this a direct course through the Veldt to the east was taken, and the camp pitched on the Manpanjeni River, in lat.  $19^{\circ} 18' 10''$  s., within half a mile of Um-Numbata's kraal or town. Arrangements were then made, in due form, for the visit to the chief. The chief, in treating with Mr. Baines, only required that, before leaving the country, he should return and report to him what he had found.

On the 7th of August, Mr. Baines and Mr. Nelson resumed their journey with one waggon, and treked on northwards day after day, crossing in succession numerous affluents of the Zambesi, which are all duly named in the Appendix. The country passed consisted sometimes of stretches of sand, or of bare rock, enclosed by rounded hills of granite, with vast boulders and balanced logans; at other times, quartzose and schistose rocks appeared in naked ruggedness upon the surface. These wilder stretches alternated continually with gently undulating plains, often broken by successive ridges of quartzose rock, with shallow valleys lying between, sometimes gay with *Proteas* in full bloom, at other times covered with *Bauhinias*, papilionaceous plants, 4 or 5 feet high (looking in this stage very much like regularly planted vines), and at others with scattered *Mimosas*. The granite ridges and hills were occasionally of whitish or grey bare rock, but in some places densely clothed with forest trees, interspersed with flowering aloes and *Euphorbias*, among which the *Candelabra Spurge* was of frequent occurrence. The gulleys were almost always verdant with *Mimosas* of different kinds, ranging from 16 to 20 feet high. The general range of the country traversed was found to be at an elevation somewhere between 3000 and 4000 feet. Some of the rivers passed were exceedingly picturesque and beautiful, the water coursing freshly along over alternate rock and sand, the high banks being bordered by grassy knolls and clad with trees that overhung the stream, and the sides of the channel and quieter pools being covered with water-lilies. The Uzwezwe River, which was crossed on the 21st of August, was especially marked as being of this beautiful character.

On the 30th of August (in company with Mr. Hartley), they crossed the Inzinghazi River, and Mr. Baines encountered the Starus Buck, or sable antelope, for the first time, and soon after reached the Ganyana River. On the 1st of September, Mr. Baines started with a Mashuna chief, named Amakoonda, who took him through a group of hills over the Chingasora rivulet, another beautiful mountain-stream, and then through extensive corn-fields, and up a tortuous path to a kraal, or village, standing high among peaked and jagged rocks of grey conglomerate. On the 3rd of September they started due east from this kraal, and, in one hour's travelling on foot, with surface-indications of quartz continually increasing by the way, came into a district containing numerous old workings for gold. In one place there was a large bank or heap of quartz pebbles, with a great number of holes, from 3 to 4 feet in diameter, and from 5 to 10 feet deep. They returned by another route and another Mashuna kraal, and the next day visited a still more extensive group of workings on the Kanyamatimba River. From this, until the 17th of September, the time was occupied by both Mr. Baines and Mr. Nelson in examining and exploring the country in all directions. At the extreme point of his exploration Mr. Baines was in lat.  $17^{\circ} 35'$  south, which very nearly corresponds with Karl Mauch's farthest advance in this direction in 1867. Mr. Baines has no doubt that, at this spot, he was within 50 miles of the Luenja, and other affluents of the Zambesi, in which the Portuguese wash alluvial deposits for gold. On September 21st, they recrossed the Sarua (or Sologozan), and on the 23rd again pitched their camp just beyond the Umfuli.

Mr. Baines and Mr. Nelson now spent some days in making a more careful examination of a group of old workings for gold which Mr. Hartley had pointed out to them on the Simbo River, between it and the Sarua, 2 or 3 miles to the north of the Umfuli River. This, on the whole, contained the most interesting specimen of the old native workings. The latitude of this spot was found to be  $18^{\circ} 10'$  south, and the longitude about  $30^{\circ} 50'$  east. The height above the sea-level was estimated at 3525 feet.

The workings, in this instance, were on a somewhat elevated hill, in two distinct ledges, or reefs, of quartz, 500 yards asunder, which cropped out to the surface of the ground for a direct extent of between 400 and 500 yards. For this entire length the veins have been, more or less, broken up and worked, the best and richest specimens of the quartz having been removed, and the poorer specimens left behind as refuse. The refuse fragments have been thrown back upon the reefs as



the work advanced along them, so that they are now entirely hidden by the débris. The fragments are scattered in heaps of various sizes, sometimes from 15 to 20 feet across. The deepest pit is probably not more than 8 feet deep; but all the pits have an accumulation of the broken fragments at the bottom, so that the exact depth cannot be ascertained unless the shafts are carefully cleared of the débris. It is perfectly manifest, from the appearance of the surrounding heaps, that the pits were dug deeper in some places, where the richest specimens of rock were found, than they were in others. Trees have grown in several of the pits, but the largest observed was not more than 5 inches in diameter.

Mr. Nelson felt confident, from all the facts which came under his notice, that these workings could not be more than from 150 to 200 years old. They were certainly made by the Mashuna Kafirs, a tribe which occupied the spot before Umseligase came and drove them further towards the Zambesi River, and towards the east. One old Mashuna told Mr. Baines that he could remember digging for gold having been carried on by his people on some of those very spots. All hunters and traders who have had intercourse with the Mashunas agree in describing them as a friendly, peaceable, industrious, and ingenious people. They make fine iron from the magnetic iron-ore, grow cotton, construct rude textile fabrics, and in many of these particulars are certainly in advance of the surrounding tribes. They have now, however, no certainty of life or property, because gangs of Matabele warriors continually sweep through their settlements, stealing cattle, sheep, and goats, and killing the people, or taking them away with them as captives. The development of the Mashunas has been effectually checked by the irruption upon them of the Matabele under Umseligase. It is certainly very wonderful that these Kafirs, so destitute of tools and mechanical aid, should have been able to extract gold from this adamantine rock. Mr. Nelson states that the work was effected by first breaking the quartz into small pieces, and picking out such scales of the bright metal as could be seen. The fragments were then placed in holes about 5 or 6 inches deep and broad, formed in granite or other hard rock, and round, hard boulders, of suitable size, were then rubbed round and round upon them; and the silica and lighter particles were afterwards washed away from the gold, either in clay bowls or in cavities hollowed out in wood. How they contrived to break the quartz away from the solid hard reef, still remains the heart of the mystery. There is no doubt, however, that the want of effective tools always prevented them from penetrating into the quartz veins to any material depth.

Mr. Nelson, after mature consideration, came to the conclusion that this particular sett was the most promising that he had examined. It was therefore determined to endeavour to arrange with Um-Numbata for a grant of the right to crush for gold at this spot. Certain boundaries of ground were agreed upon, indicated in the north and east by the line of the river Simbo and by a chain of small hills, and in other directions by large ant-heaps with trees growing out of them, which were marked. The Matabele guide was then called, and these beacons and boundaries were pointed out to him as defining the ground which it was intended to ask from the chief. It was considered a very important point that there was an unlimited abundance both of wood and running water contained upon the actual ground.

The rock enclosing the quartz veins was found to be gneiss, and a mixture of talcose and chloritic slates striking about north-east and south-west, and dipping at an angle of from  $70^{\circ}$  to  $80^{\circ}$ . What stratified rocks could be examined throughout the entire district, were so hardened and metamorphosed that it was exceedingly difficult to arrive at any satisfactory conclusion regarding their geological age. Mr. Nelson, however, inclined to refer them to the Lower Palæozoic epoch. The quartz veins were so buried in the fragments produced by the workings that it was altogether impossible to ascertain their breadth below the surface of the ground; but this was certainly very considerable. Mr. Nelson found silver-bearing galena disseminated through the auriferous quartz; and this was the only spot in which this was the case in any of the extensive explorations made. Fragments of quartz rock were taken indiscriminately from the refuse of the workings at various places, and six of these have been since submitted to careful assay in England. Two specimens taken from one of the veins yielded at the rate of 0.825 and 1.950 ounces of gold per ton, Four specimens taken from the other vein yielded 0.975, 3.125, 3.500, and 8.150 ounces per ton. From one choice piece of quartz, belonging to this second vein, Mr. Nelson procured gold at the rate of 60.75 ounces, and silver at the rate of 17.1 ounces per ton. Under the circumstances in which this exploration had to be made, it was found to be quite impracticable to do more than take fragments of the rock lying ready to hand on the surface; and it must be understood that these were all of the character of refuse which had been cast aside as valueless by the native workmen. There can be no doubt that the pieces selected by the Mashunas for the extraction of gold were of much richer character than the average range of these specimens,



and that the substance of the quartz reefs, if they could have been got at, would have yielded rock of a similarly high value.

Through the entire extent of this high region, granite seems to form the backbone, or foundation, of the ridge of the watershed. It is, in many places, intersected with felspathic greenstone, and is associated with gneiss and hornblende schist in various forms of diversity, and with a hard rock, containing comminglings of talc and quartz. There is also connected with the escarpment of the granite a dark-coloured slate formation, about a mile across, in many places standing almost perpendicularly, and forming high bluffs on both sides of river channels. The slate band also forms regular high mountain ridges that can be seen for a long distance. It is this slate formation that is the principal seat of the quartz veins, which run in all directions, and are sometimes as much as 75 feet wide. Mr. Nelson remarks that it is here exactly as in California,—no gold is found along the main central line of the granite; the gold occurs where the stratified rocks trench upon the great granitic axis. This explains the presence of gold among the affluents of the Limpopo on one side, and among the affluents of the Zambesi on the other side, of the leading crest of the watershed. The river-courses are commonly paved with greenstone boulders, black iron sand, cornelians, agates, jasper, chalcedony, hornstone, and flint; and amidst these deposits there are often traces of alluvial gold. In most of the cases which came under notice the quantity was small; but Mr. Nelson was of opinion that it was very likely to be found in larger quantities in deeper parts of the river-bed. The River Changanani seemed to him to be one of the most promising rivers for the extraction of gold from alluvial deposit by washing.

It is perhaps worthy of note that the gold-yielding districts of South Africa seem to be very much in the direction of a meridian of longitude. Small traces of gold have been found in Natal along the lower portion of the southern rivers, especially in the channels of the Umyinto and Umtwalume. Traces have also been seen in the Valley of the Tugela, near the junction of the Buffalo River. If a line be drawn directly north from the former of these positions, it passes through the latter; and this line, continued on still northwards, actually strikes the gold-bearing regions of the Simbo, those of the Tati being but a little farther towards the west.

About the beginning of April, after his return to the Transvaal, Mr. Baines found an opportunity, on the occasion of starting upon his first official visit to No-Bengule, after his installation as chief, to make his knowledge of the geography

of the culminating point of the crest of the watershed more exact. The rivulet at Manyama's place is the first spruit of the Shashani River, and there are four more small rivulets between it and the main channel of the Shashani. There is then a rivulet running back, and down the valley by which the ascent to the crest is made; that is the first spruit of the Tati, which river it joins four days' waggon-journey below. At the top of the valley there are four miles with the head-waters of the Tati running, as spruits, backwards from the traveller's course, on his left-hand. A small rivulet is then reached on the left-hand, flowing in the opposite direction, and which is the first tributary of the Gwaii, belonging to the Zambesi system. The route then continues along the watershed, sometimes diverging a trifle to the south, so as to touch the sources of the Limpopo, feeding Tati, and sometimes trending to the north, so as to touch the sources of the Zambesi, feeding Gwaii. The actual watershed is very narrow, and at first runs nearly east, and then sweeps round to north-east and north, forming a mighty amphitheatre. A river running to the Limpopo rises a very few miles south of the In-Quenquis, a tributary of the Changanis and Zambesi, on which the mission station of Inyati stands. The source of the Passorie, a tributary of the Limpopo, almost meets the source of the Changanis; and these two rivers (the latter misspelled as the "Shungalla") form the boundary of the Transvaal given in the last proclamation of the President of that State. A little south-east of Um-Numbata's place rises the Doutae River, a principal branch of the Sabia. Ninety-four miles south-east of the Mashuma diggings, on the Simbo and Umfuli, is the kraal of the chief Inyorka, on the top of a range. Forty miles farther south-east is the kraal of Zebombom, also on a source of the Sabia; and 40 miles below this the river begins to be navigable, and canoes are used upon it. This places that particular spot of the northern gold-field within about 174 miles of a navigable river by the Sabia route. One hundred miles lower down, the chief Umzeila lives, on a large branch of the Sabia known as the Boozy. Umzeila is a son of the late chief Shishongaan, the notorious slave-trader of the country north of Delagoa Bay.





1869	Apr 14	arrived at outer anchorage Natal							
16		Landed at Point L							
		- By rail to Durban							
25		Pieter Maritzburg by Bus							
maul	13-16	Top of Town hill							
		Swardkop road. by wagons	7	-	0	.	127	-	1. 9
17		Umgeni Bridge Howick							
		Wallfall 350 feet	8		7		30		0 11
18		Caversham Hill Durban	11		10		71		2 10
26		Houtbosch/Woody bush/raam	4		7		166		0 3
25		Moori River 300 yds flight of bridge	20		4		199		2 5
27		Through Colenso to Tugela R	19		0		7		0 3
30		Tent Hotel foot of Drakensberg	32		1		58		1 2
april	1	Top of Drakensberg Van. Reenen's pass	8		3		184		0 9
3		Harry Smith Orange Free State	25		1		114		0 11
		Pieter Maritzburg to Harry Smith							
		148.6.180.1.2							
84		mill. River	21		2		8		1 3
12		Bamboo Spruit	27		6		22		2 7
12		praam Kop	11		4		137		0 9
13		Leo Kop	9		7		47		0 10
14		one hour north of Tafelkop	15		7		189		0 8
20th		Cross Vaal River Euusies drift into Transvaal Republic	44		2		214		0 0
		Harry Smith. to cross Vaal R							
		130.6.178.2.3							
		Pieter Maritzburg to cross Vaal R.							
		279.5.139.0.5							
21		pass M. Gous to poort	7		3		44		2 1
22		South of Tzikenborch Raand River	2		1		20		1 11
22		<del>South of Tzikenborch River</del> cross Tzikenborch Raand River	2		2		76		0 1 1/2
22		200 yds short of Klip R	9		1		182		2 10 1/2
23		Houtkoppies Vander merwe	5		7		77		2 9 1/2
23		Riet Spruit	2		0		183		1 6 1/2
24		Loosburg Th. Pretorius	11		5		166		1 1
26		cross Tugela Spruit	11		5		33		1 1 1/2
28		cross Loos Spruit	10		4		182		1 10 1/2
27		Potschefstroom Coulson's Royal Hotel	10		4		53		2 2 1/2
		Summit drift to Potschefstroom							
		25.6.182.0.1 1/2							
		Pieter Maritzburg through Hotel to Royal Hotel. Potschefstroom							
		365.2.47.0.6 1/2							







---

APPENDIX.

---

APPENDIX.—ROUTE OF THE SOUTH AFRICAN GOLD FIELDS EXPLORATION  
Barometric Observations by

Date.	Place.	Trocheameter.	Latitude. South.	Nature of Observation.
1869		m. fur. yds. ft. in.	° ' "	
May 12 ..	Potchefstroom, Coulson's Royal Hotel.	..	26 43 00	Stellar
* 12 P.M.	To Flat .. .. .	28 3 109 0 7	26 23 0	D R
.. 13 ..	Foster's house at Wonder Fontein.	4 4 129 2 7	26 20 3	4 stars
.. 14 ..	Flat .. .. .	12 2 8 0 11	26 10 30	..
.. 14 P.M.	Hol Fontein .. .. .	0 4 53 1 2½	26 10 10	3 stars
.. 15 ..	Blaawe Bank .. .. .	10 0 102 2 1	26 2 10	D R
.. 15 P.M.	Entrance of poort .. .. .	4 4 114 0 10½	25 59 10	..
.. 17 ..	Foot of Magaliesberg .. .. .	7 3 152 0 6	25 54 20	..
.. 17 P.M.	Shore of Van Staadens .. .. .	6 7 49 0 4½	25 51 50	..
.. 18 ..	Over Olifant's Nek .. .. .	8 0 63 0 3	25 46 0	..
.. 18 P.M.	1 mile south-east of Rusten- burg.	6 5 159 0 9	25 41 28	3 stars
.. 19 ..	Past Maiden's Kraal .. .. .	14 4 40 0 5½	25 30 11	1 star
.. 20 ..	South end of Pilan's berg .. .. .	11 2 161 0 10½	25 21 20	..
.. 20 P.M.	North-east of Saul's poort .. .. .	14 4 34 2 9	25 11 10	..
.. 21 ..	Brak Water Spruit .. .. .	8 4 152 2 3½	25 6 40	..
.. 21 P.M.	Beer Kraal .. .. .	10 0 0 0 0	25 2 48?	..
		or	24 49 0	D R
.. 22 ..	Hol Fontein .. .. .	11 3 0 0 4	24 49 50	..
.. 22 P.M.	Mimosa Grove .. .. .	6 0 196 0 11	24 44 50	..
.. 22 Evg.	Grassy Plain, no water .. .. .	9 43 19 0 9	24 37 17	2 stars
.. 23 ..	Klip Kuil, little water .. .. .	1 7 34 1 2½	24 35 30	..
.. 23 P.M.	Limpopo or Krokodil River .. .. .	14 2 127 1 0	24 23 0	D R
.. 24 ..	Ditto ditto .. .. .	10 1 170 2 0½	24 17 0	..
.. 24 P.M.	Cross Marieo River at its junction with Limpopo.	9 2 31 0 7	24 10 58	3 stars
.. 25 ..	Limpopo River .. .. .	7 5 88 2 6½	24 0 50	..
.. 25 ..	Ditto .. .. .	4 0 52 3 0	24 1 0	..
.. 25 P.M.	Ditto .. .. .	8 2 36 2 2½	23 55 20	3 stars
.. 26 ..	Krantz draai, Limpopo .. .. .	10 5 60 1 7	23 49 0	D R
.. 26 P.M.	Cross Notuani River, Limpopo	6 5 32 0 2½	23 44 31	2 stars
	Carried forward .. .. .	248 3 200 2 10½		

\* The latitude of Macabe's farm, taken by myself in 1850, is 26° 30' 30".

COMPANY'S EXPEDITION. Observed by T. BAINES, Commanding. Calculations and R. J. JEWELL, Secretary.

Longitude. East.	Nature of Observation.	Boiling Point.	Barometer.	Thermometer.	Maximum.	Minimum.	Height in Feet.	REMARKS.
° ' "								
27 33 40	Lunar by E. Mohr D R	204·6	24·85	65½	..	..	3900	Lat. obs. by E. Mohr 26° 42' 54". Long. obs., by E. Mohr 27° 33' 40" observed in circus be- hind the Royal Hotel, Coulson's.
27 44 30								
27 47 0	D R	..	..	..	..	32		Mr. Mohr's lat. is 26° 20'. Wonder Fontein 1 mile E.N.E.; house, 500 yards south-east.
27 52 0	..	..	..	75	80			
27 52 10	..	202·9	24·70	55	..	38	4810	The Fontein, south-west 100 yards; the house, south-east 500 yards. Meet Glasgow party.
27 52 0	..	..	..	..	..	..	..	North of river, house on left. Ride E.N.E. about 6 miles to Mr. Hartley's at Thorndale.
27 49 40	..	..	..	60	68	..	..	
27 48 30	..	..	..	46	..	39	3792	
27 42 20	..	204·8	25·	46	..	39	3792	
27 38 10	..	..	..	75	..	..	..	Cross Hex River before crossing the Nek.
27 39 30	..	205·6	25·25	38	..	35	3367	The Dorpspruit runs into Hex River.
27 40 50	..	..	..	..	..	..	..	
27 39 0	..	206·3	25·65	54	64	..	3047	
27 29 30	..	..	..	..	..	41	..	Pass a village of Kaama- yans.
27 23 0	..	..	..	..	31	..	..	North end of Pilan's berg.
27 18 30	..	..	..	..	..	..	..	South of the heights of Kurichaine or Water berg.
27 14 20	..	..	..	..	81	..	..	North of the heights.
27 13 50	..	205·2	25·50	71	81	..	3580	
27 10 40	..	..	..	..	..	50	..	Lion round the cattle.
27 9 40	..	206·3	25·50	61	..	50	3520	
27 7 10	..	206·7	26·50	65	95	..	2782	¾ mile west of river.
27 0 0	..	..	..	..	..	45	..	Outspan under Haak
26 54 0	..	206·9	26·50	64	79	..	2676	Down on west bank of river.
26 50 0	..	..	..	..	..	50	..	Pass large Wellegaat
26 49 30	..	..	..	..	90	..	..	Bourn. Outspan under
26 34 30	..	..	..	..	93	..	..	large tree.
26 40 40	..	207·4	26·40	73	..	48	2412	
26 43 10	..	207·7	..	..	..	..	2253	Beside the Limpopo. Concert of lions.

## APPENDIX—

Date.	Place.	Trocheameter.					Latitude. South.	Nature of Observation.
		m.	fur.	yds.	ft.	in.	° ' "	
1869	Brought forward .. ..	248	3	200	2	10½	° ' "	
May 27 ..	Suruma Vlei .. ..	14	7	113	2	0½	23 36 30	D R
,, 27 P.M.	Surimane River, dry .. ..	8	1	30	1	11	23 33 0	3 stars
,, 28 ..	Klip Kuil or stony pool .. ..	8	3	78	1	6½	23 26 10	D R
,, 28 P.M.	South of the Kopjie .. ..	9	6	123	2	5	23 19 12	3 stars
,, 29 ..	Plain with Mimosas .. ..	6	5	143	1	7½	23 14 10	..
,, 29 P.M.	Ba-Mangwato hills .. ..	10	4	1	1	7½	23 6 54	3 stars
,, 31 ..	From Ba-Mangwato hills to round the point of hill.	7	6	209	2	7	23 3 0	D R
June 1 ..	South-west of Mahalapi River	7	7	110	0	10	22 57 30	..
,, 1 P.M.	Cross Mahalapi and Meetli rivers and outspan on flat.	8	1	0	0	6	22 53 2	2 stars
,, 2 ..	Cross Touani (Little Lion) River.	4	0	136	2	4	22 51 10	D R
,, 2 P.M.	Chakani Pans .. ..	10	4	42	2	10½	22 44 10	..
,, 2 P.M.	On flat. Pass Limonie .. ..	7	5	73	1	4½	22 39 50	..
,, 3 ..	Lotsaní River .. ..	10	3	196	2	1	22 35 40	..
,, 3 ..	Krantz Kopjie and pool .. ..	4	2	136	1	9	22 34 0	..
,, 3 P.M.	Pass Palatzie—on flat .. ..	9	6	155	0	8	22 29 0	2 stars
,, 4 ..	Sandy hollow .. ..	7	7	156	1	3	22 26 30	D R
,, 4 ..	Cross Seruli River .. ..	9	1	50	2	9	22 20 47	Q
,, 4 P.M.	Pass Pan—outspan on flat .. ..	7	3	195	1	2½	22 15 50	3 stars
,, 5 ..	Flat, no water .. ..	6	5	67	0	8½	22 10 10	..
,, 5 P.M.	Cross Gōkwē River .. ..	9	4	118	2	2½	22 2 49	4 stars
,, 7 ..	Past Kachani River, outspan on flat.	10	2	151	2	8½	21 54 40	D R
,, 7 P.M.	Cross Macloutsie River .. ..	8	5	59	1	3	21 48 25	4 stars
,, 8 ..	Cross Big Sand Spruit, large Haak Doorn tree on north- east side.	6	5	80	2	1½	21 43 0	D R
,, 8 P.M.	Shashi River, north-east side	12	2	114	2	10½	21 33 13	2 stars
,, 9 ..	Cross Tati River, outspan on bank	6	6	33	1	6	21 27 0	Q T. Baines
,, 11 ..	On flat, near small Spruit .. ..	8	3	199	2	11	21 28 0	Q E. Mohr
,, 11 P.M.	Ramakoban, south-west of river	10	4	6	2	4	21 21 0	D R
,, 12 ..	Cross Uñ-pakwe .. ..	9	5	166	0	9	21 13 0	..
							21 5 59	3 stars
	Carried forward .. ..	492	1	77	2	7½		



continued.

Longitude. East.	Nature of Observation.	Boiling Point.	Barometer.	Thermometer.	Maximum.	Minimum.	Height in Feet.	REMARKS.
° ' "								
26 44 20	..	..	..	76	..	..	..	Leave Limpopo where
26 41 10	..	207·2	26·35	56	..	..	2518	Matlabats runs in.
26 37 30	..	207·0	..	..	..	40	2623	Swarms of locusts, full
26 34 0	..	206·9	26·20	47½	..	..	2676	of eggs.
26 32 0	..	..	..	..	..	33	..	Meet division of Glasgow
26 31 10	..	..	..	..	..	..	..	party returning.
26 36 0	D R	..	..	..	..	..	..	Shoshong 10 miles W.N.W
26 40 30	..	..	..	..	..	34	..	
26 45 10	..	..	..	..	..	38	..	No water. One of Mr.
26 48 20	..	..	..	..	..	65	..	Hartley's horses died
26 56 0	..	206·0	25·20	62	..	..	3154	of the sickness.
27 1 10	..	..	..	..	..	..	..	No water.
27 8 20	..	206·9	26·6	..	..	..	2676	Travel till 10.20 P.M.
27 12 20	..	206·8	26·65	82½	..	..	2729	No water.
27 20 10	..	..	..	..	..	..	..	Inspan at 2.35 A.M. Found
27 26 10	..	206·7	25·95	43½	..	39	2782	a little water in Lotra
27 32 0	..	206·6	26·63	77	..	..	2835	down hill; first mopane
27 34 0	..	206·6	26·00	41	..	..	2835	trees.
27 35 10	..	206·8	26·50	..	..	39	2729	Heavy sand.
27 37 30	..	207·1	26·37	70	..	..	2591	Pass a Fly Kopjie south
27 42 30	..	207·2	26·85	59	..	37	..	of our road.
27 45 30	..	..	..	..	..	..	..	Meet McNeil's party.
27 47 0	..	207·2	26·85	62 53 at 2 A.M.	..	..	2518	Four deaths, two cases
27 49 10	..	206·8	26·22	62	90	43	2729	of fever.
27 51 0	Lunar	207·0	26·22	45	1	44	2623	No water.
27 52 0	E. Mohr	207·0	26·33	59	..	44	2623	One hour and 50 minutes
27 56 30	D R	..	..	..	..	..	..	past Kachani River at
27 58 30	..	206·8	26·10	86	..	..	2729	2½ miles per hour.
	..	206·7	26·00	69	77	31½	2788	This river is the north-
								east frontier of Mat-
								jen's province.
								The minimum cannot
								be observed when the
								waggon is in motion
								before sunrise.
								A large tributary of the
								Limpopo receives the
								Tati, and several other
								rivers below the houses
								of the gold-diggers.
								Broad sandy river.
								Ruins of Mashuna Kraal,
								rough walls of dry
								stone.

Date.	Place.	Trocheameter.					Latitude. South.	Nature of Observation.
		m.	fur.	yds.	ft.	in.	° ' "	
1869	Brought forward .. ..	492	1	77	2	7½		
June 14 ..	Cross Un-Kwezi River at Mak- hōbē's.	10	6	166	1	4	20 57 9	3 stars
„ 15 ..	Cross Sawpit spruit of Mangwe River.	20	0	15	2	8	20 44 40	E. Mohr and T. Baines
„ 16 ..	Cross Semokhie River .. ..	6	4	86	0	3	20 39 30	D R
„ 16 P.M.	Manyama's on a small spruit of Shashani River, granite hills.	4	3	182	0	11	20 37 10	3 stars
	From Ba-Mangwato hills to Manyami's.	227	0	54	2	9		
	From Potchefstroom to Ba- Mangwato hills.	307	0	33	2	0½		
	Total .. ..	534	0	88	1	9½		
July 6 ..	From Manyama's .. ..			..			20 37 10	Many various stars
	Crossing the Shashani River to top of the hill Malapola or Naghōbē's.	11	6	109	0	8	20 30 2	1 star
„ 7 ..	To grassy slope .. ..	7	1	211	0	10	20 26 30	..
„ 7 P.M.	Um-Vonulu's—Inthaba Indh- lana.	3	1	205	1	3	20 23 47	3 stars
„ 8 ..	Zeshashin Zangwe or tiger bush.	5	0	207	1	2	20 21 30	..
„ 8 P.M.	Cross Kumalo or Royal River.	6	0	153	1	4	20 16 38	2 stars
„ 11 ..	Dry Spruit .. ..	11	3	16	2	1½	20 7 23	2 stars
„ 12 ..	Flamba Boloi (Bath of Majesty), Umkhosi or King River, south-west side	6	1	81	0	1½	20 4 20	..
„ 12 P.M.	Flat, where lion attacked us ..	7	4	104	2	10½	19 58 52	3 stars
„ 13 ..	To Umgnoma, Wild Olive- wood River, south-west side	4	4	0	0	0	19 56 0	..
„ 14 ..	Past Um-Haeguá's village ..	7	3	65	0	11½	19 51 30	..
„ 14 P.M.	Cross a spruit south-west of Bembesi River, turn east here leaving the road going north-east on our left.	7	6	169	1	2	19 46 45	2 stars
		78	3	4	0	6		
„ 15 ..	Umlomo's Kraal .. ..	6	4	129	1	4½	19 44 30	..
„ 15 P.M.	Bleak flat, no water .. ..	3	5	53	0	8½	sky clouded 19 43 30	..
	Carried forward .. ..	10	1	182	2	1		D R

continued.

Longitude. East.	Nature of Observation.	Boiling Point.	Barometer.	Thermometer.	Maximum.	Minimum.	Height in Feet.	REMARKS.
0   "   "								
28 1 20	..	205·8	25·70	53	..	..	3260	Granite kopjies.
28 13 48	Lunar E. Mohr	205·4	25·20	47	..	..	3470	Lee's farm on the Mangwe $\frac{1}{2}$ mile north- east, winding round through granite hills.
28 16 20	D R							
28 19 0	..	205·4	24·80	74	..	..	3470	Outpost of the Matabele, where travellers send forward for leave to enter the country.
22 18 0	D R							
28 26 40	..	203·8	24·47	69	..	..	4328	
28 31 50	..	203·7	24·45	90	..	..	4381	
28 34 0	..	204·0	24·53	77	..	30 $\frac{1}{2}$	4221	A granite hill.
28 37 0	..	203·9	24·35	85	..	..	4274	
28 41 0	..	204·2	24·63	78	..	..	4114	Source of the river
28 44 30	..	204·4	24·75	34	..	..	4007	Gwaii. First water
28 49 20	..	204·7	25·00	53	72	24 $\frac{1}{2}$	3846	flowing to Zambesi.
28 54 10	..	204·4	24·95	58	77	..	4007	No water. Horses strayed.
28 57 0	..	204·8	25·00	50	69 $\frac{1}{2}$	45	..	Next morning, Matabele found and brought them back.
29 3 0	..	204·6	24·70	73	..	..	3900	At a scanty rill in valley beyond the village.
29 8 30	..	204·7	24·90	49	..	..	3846	Zong in Thaba Kraal onder Umbigo, 10 miles from the mission station at Inyati.
29 12 30								
29 16 0	..	..	..	..	67	44		



## APPENDIX—

Date.	Place.	Trocheameter.					Latitude. South.	Nature of Observation.
		m.	fur.	yds.	ft.	in.	° ' "	
1869	Brought forward .. ..	10	1	182	2	1	° ' "	
July 16 ..	In-Quenquis River .. ..	3	1	95	1	4½	19 43 0	Sky clouded
„ 17 ..	Strike the road from the mission to Manpanjeni, and outspan at dry spruit.	6	1	138	1	10	19 43 0	..
„ 17 P.M.	Cross Sangwe River and passing In-Quenquis Kraal.	8	5	57	1	3½	19 42 40	..
„ 18 ..	Inyanga or Doctor's Kraal, ½ a mile short of the village	9	3	131	0	7	19 40 20	1 star
„ 19 ..	Manpanjeni or Umbanjin ..	5	3	125	0	1½	19 42 30	6 stars
Aug. 16 ..	From Manpanjeni, turn (due) N.N.W. without a road, cross spruit of Mnyami and Changani rivers, and outspan in grove of thorn and kookootoo-tree.	6	5	211	1	10	19 36 0	1 star
„ 7 ..	Cross small spruit .. ..	7	3	195	1	2½	19 30 30	..
„ 7 P.M.	Ditto .. ..	2	0	165	0	8	19 29 0	1 star
„ 9 ..	Ditto .. ..	8	6	133	0	4½	19 23 43	☉
„ 9 P.M.	In twenty minutes strike the main road from Inyati going north-east. Cross Umbanga River and a sandy spruit, and in two hours from striking the road, outspan.	4	7	9	1	6½	19 20 25	1 star
„ 10 ..	From sandy spruit east of Umbanga River, granite hills on south.	73	1	125	0	11	19 20 25 19 18 50	1 star Um Vungu
„ 10 P.M.	In one hour cross the Uvungu River and outspan two hours and twenty minutes beyond on a sand belt in Mopani forest.	7	1	173	2	10½	19 16 10	D R
„ 10 P.M.	Cross U-Gwelo River. .. ..	8	4	31	1	0	19 11 15	1 star
„ 11 ..	Cross Ūn Gwenya (Crocodile) River.	3	2	157	0	7½	19 19 30	..
„ 11 P.M.	Wooded sand belt, no water	7	5	104	2	7	19 4 20	Clouded
„ 12 ..	Cross Inkokwaasi Rivulet ..	3	4	118	2	11½	19 2 0	..
„ 12 P.M.	Cross Inchamba Rivulet and outspan at old kraal.	15	2	126	1	5½	29 6 21	☉ on 13th
	Carried forward .. ..	5	45	52	2	6		



continued.

Longitude. East.	Nature of Observation.	Boiling Point.	Barometer.	Thermometer.	Maximum.	Minimum.	Height in Feet.	REMARKS.
° ' "								
29 19 0	..	204·7	26·97	52	60	..	3846	Stick fast and unload.
29 24 0	..	..	..	..	..	46	..	This is the river In- Quenquis; the mission station is 5 or 6 miles lower down.
29 31 30	..	204·7	..	56	60	..	3846	Four small rivers near this.
29 39 40	..	204·7	24·90	49	..	44	3846	Medical attendant to the royal family.
29 44 30	..	204·6	24·80	50	69	40	3900	Village of Um'Numbata, Regent of Matabili land.
29 44 55	..	204·7	25·57	76	..	..	3846	Inyati bears 280 (mag), about 35 miles.
29 43 30	..	204·6	25·20	60	..	39	3900	South of Intaba - Mad- wala, said to be ruined Portuguese houses a- bout here.
29 42 30	..	204·6	25·20	70	71	43	3900	
29 38 0	..	204·6	25·20	70	..	43	3900	Inthaba Banga N.N.E. (due).
29 40 0	..	204·7	25·25	57	75	..	3845	Meet Mr. S. Edwards, bound to Inyati.
29 40 0	D R							
29 42 0								
29 45 0	..	204·4½	25·10	68	..	41	3980	The Uvungu River has steep banks and sandy bed, 75 or 100 yards wide.
29 50 10	..	204·8	25·25	48½	89	..	3793	Sandy bed, fine pools above the drift.
29 52 20	..	..	..	..	..	29	..	Small river. Meet Han's Hasi, a Griqua hunter.
29 57 00	..	204·4	25·10	..	..	..	4007	Ughondie and other soft- wood trees.
29 58 40	..	204·7	25·15	72	..	55	3846	In a road too far to the north.
30 9 10	..	204·8	25·22	77½	..	..	3793	Course to the south-east Nelson sees two lions.

## APPENDIX—

Date.	Place.	Trocheameter.					Latitude. South.	Nature of Observation.
		m.	fur.	yds.	ft.	in.	° ' "	
1869 Aug. 13 P.M.	Brought forward .. .. Cross U-Quaequae River ..	45	5	52	2	6	19 7 25	Cloudy, 4 stars, 1870
,, 14 ..	Matchabella Grove, no water.	9	7	45	2	0	19 1 40	..
,, 14 P.M.	Cross Im Bembis or Bembesi River.	4	6	77	2	1	18 58 30	1869 and 1870
,, 16 ..	Cross Sebaque River (first palms).	5	5	156	1	10½	18 55 7	5 May, 1870
,, 17 ..	Small river (Indhlovu or Elephant).	7	7	10	2	10	18 51 40	..
,, 17 P.M.	Small river, nameless .. ..	4	4	77	2	2	18 49 48	1 star
,, 18 ..	Cross Umyati River, broad sandy bed and steep banks.	8	2	90	0	1½	18 45 18	1 star
,, 19 ..	Cross Ungezi River, rapid stream, rocky drift.	5	1	2	2	6	18 42 0	D R
,, 19 P.M.	5½ furlongs short of Ungezan or Inkwazan or Little Ungezi.	3	7	13	1	2	18 39 0	..
,, 20 ..	Cross Ungezan and several little rivers, among which is the "Break-down" rivulet of 1870, and outspan at a			..			18 33 36	3 stars
,, 21 ..	Rivulet in grassy valley .. .. Cross Uzwezwe River .. ..	12	5	190	2	6	18 29 56	1 star
,, 21 P.M.	Cross mud spruit and outspan in soft-wood grove, 1¼ mile beyond.	2	3	50	2	1	18 29 7	South side, 3 stars, 1870
,, 21 P.M.	Cross mud spruit and outspan in soft-wood grove, 1¼ mile beyond.	9	4	3	1	7½	18 22 16	2 stars
,, 24 to 27	About 6 miles to the north the road turns more easterly, then north again, crosses the Zinlundasi Rivulet and the Umfuli River at Hartley drift, then turns north-west to the Sarna.			..			18 18 00 18 14 30	.. ..
,, 27 P.M.	Cross Sarna River .. ..	27	1	194	0	10	18 7 40	..
,, 28 ..	Cross half-a-dozen small rivu- lets and	14	0	39	1	5½	17 58 11	1 star
,, 29 ..	Cross Imbeela (or Rock Rabbit) River.							
	Carried forward .. ..	165	2	111	2	3		

continued.

Longitude. East.	Nature of Observation.	Boiling Point.	Barometer.	Thermometer.	Maximum.	Minimum.	Height in Feet.	REMARKS.
30 11 20	..	204.8	25.22	60	..	..	3792	Join Hartley's Road just before crossing the river. Fine broad running stream.
30 18 0	..	..	..	..	..	..	..	Halt for flesh of wildebeeste.
30 20 0	..	205.4	25.25	63½	..	..	3474	Water 2 ft. 6 in. deep at the drift; broad low valley on each side.
30 24 0	..	205.5	..	50	..	42	3420	Buffaloes and lions plentiful. Tsetse not far down the river.
30 29 30	..	205.5	25.60	60	..	..	3420	
30 33 40	..	205.5	25.26	50	65	..	3420	Fine pool below the drift.
30 36 0	..	205.6	25.64	54½	..	40	3366	Rugged granite hills going into the trap makes a needless half mile.
30 39 0	..	205.4	25.55	57½	..	..	3475	30 yards broad water, cool and clear, running into Umyati 2 miles below the road.
30 41 0	..	..	..	62	..	..	..	Runs into Ungezi nearly 2 miles below the road.
34 44 20								
30 46 0	..	205.2	25.40	49	68	36	3580	On foot from Jennings'. Overtake Nelson here.
30 47 0								
30 48 0	..	204.8	25.22	64	..	69	3793	In returning, we took a more direct route nearly south from the Sarua, reducing the distance considerably, as will be seen further on.
30 55 00								
30 55 30								
30 48 30	..	205.3	25.45	70	82	50	3526	Called Sulagozan River, to commemorate the killing of an old woman; also Mopanie River. Strong stream.
30 40 0	..	205.2	25.40	77½	82	42	3580	Rocky river, joins Umyati 25 miles down.



## APPENDIX—

Date.	Place.	Trocheameter.					Latitude. South.	Nature of Observation.
1869	Brought forward .. ..	m.	fur.	yds.	ft.	in.	° ' "	
Aug. 30 ..	Cross Inzinghazi River .. ..	165	2	111	2	3	7 50 36	1 star
„ 31 ..	Ganyana River, Panjamey of Livingstone, where it joins the Zambesi.	7	5	162	1	5½	17 44 56	2 stars
		9	7	8	1	5		
		182	7	62	2	1½		
	Amakoonda's Village .. ..						17 33 0	D R
	Old Diggings .. ..						17 31 40	..
	Return Journey from Sarua River north side.						18 27 40	D R
Sept. 21 ..	Across Simbo Rivulet to Hart- ley Hill, the Company's first claim.	5	4	141	2	11½	18 11 39	3 stars
„ 22 ..	North side of Umfuli, oppo- site Sir John Swinburne's digging.	0	7	87	1	3	18 12 30	D R
„ 23 ..	Cross Umfuli River below junction of Zenlundasi River	3	6	95	0	1½	18 14 0 18 12 16	D R 1 star
Oct. 2 A.M.	Junction of new road with the old.	5	6	142	0	2	18 19 10	D R
„ 2 P.M.	Small stream in open valley	4	0	42	1	6½	18 21 37	3 stars
	Our outspan of August, 21 and 23.	1	2	25	1	0½	18 22 16	1 star 2 sun
	Total by direct road ..	21	3	94	1	1		
	From outspan of August 21 and 23, to north side of Sarua by old road .. ..	27	1	194	0	10		
	Difference in favour of new road.	5	6	99	2	9		
„ 4 ..	Outspan of August 21 to Uz- wezwe, north side.	7	3	200	1	11	18 29 7	South side, 3 stars

continued.

Longitude. East.	Nature of Observation.	Boiling Point.	Barometer.	Thermometer.	Maximum.	Minimum.	Height in Feet.	REMARKS.
° ' "								
30 39 50	..	204·7	25·22	60	..	..	3846	Runs into Imbeela.
30 41 20	..	204·5	25·2	77	80 95	52	3953	From this camp I rode about 35 miles north-west by west (due) to Amakoonda's, a Mashuna chief, and saw old diggings; there is Tsetse about 10 miles beyond.
30 17 20								
30 19 0								
30 48 20	D R							
30 49 20	..	204·8	24·70	..	95	..	3798	The new road crosses nearly south from Sarua to Simbo River, the old one goes east from 4 to 6 miles. The holes were dug by Sir John without permission from the Matabele.
30 49 10	..	..	..	..	95			Kigeliso pinnata, or pas pisa trees, north of the drift.
30 51 40	..	205·	24·92	74	98	42	3686	My last ride on "Dutchman" in chase of rhinoceros.
30 50 40	..	..	..	..	82	48	..	One ox died here in coming in, and my horse "Dutchman" died 1¼ mile south in the return journey. Matabele army, returning from plundering the Mashunas, overtakes us.
30 48 50	..	..	..	..	94			
30 48 0	..	..	..	..	..	..	..	
30 47 0	..	..	..	78 at 7 P.M.	91	62	..	Saving of 2 m. 22 y. 2 ft. 8½ in. by not turning out to the eastward. Moderate shower.

## APPENDIX—

Date.	Place.	Trocheameter.	Latitude. South.	Nature of Observation.
		m. fur. yds. ft. in.	° ' "	
1869 Oct. 8 ..	From north of Umyati to outspan of August 17, by rivulet.	7 6 183 2 0½	..	..
.. 15 ..	From U-Quaequae east side by road nearly due west.	..	19 7 25	..
	Cross the Inchamba, to Lunda Route.	10 2 50 1 11	19 10 55	..
.. 15 P.M.	Past Un-Gwenya River, no water.	12 0 185 1 9½	19 11 30	..
.. 16 ..	Cross U-Gwelo River to west side.	2 6 142 2 0½	19 11 15	1 star
	Total by direct road ..	25 1 158 2 9		
	From U-Gwelo 200 yards on east side by northern road to across U-Quaequae.	33 4 52 1 1½	..	..
	Difference in favour of direct route.	8 2 113 1 4½		
.. 19 ..	From west of Umbanga River, where we met Mr. S. Edwards, August 9th, to cross Changane River, broad sandy.	..	19 22 30	..
		9 4 50 2 0	19 27 40	..
.. 19 P.M.	Cross I-zango River, broad sandy.	2 4 66 1 4½	19 29 0	..
.. 20 A.M.	Cross small rivulet .. ..	3 2 186 1 0	19 30 40	..
	Cross Ohlungo Route, cross Umcloutchan and another route.	6 4 154 0 3½	19 34 0	..
.. 20 P.M.	Cross Inzolongo River ..	2 6 71 1 5	19 35 30	..
	Between the hills, Piccaroon Kraal.	4 1 215 0 8	19 37 30	..
.. 21 A.M.	Inyati Mission Station .. ..	6 6 203 0 10½	19 40 48	E. Mohr
Nov. 6 ..	Cross In-quenquis River ..	1 1 119 2 0½	19 41 30	..
.. 8 ..	Cross Imbusini Rivulet .. ..	3 5 195 1 9½	19 43 10	..
.. 9 ..	Cross Bembesi River to our outspan of July 14.	4 7 124 2 1½	19 47 0	..
	Total by direct road ..	45 6 67 1 7		
	From outspan of July 14 Bembesi by Manpanjeni to Umbanga River.	73 1 125 0 11		
	Difference in favour of direct Route.	27 3 57 2 4		



continued.

Longitude. East.	Nature of Observation.	Boiling Point.	Barometer.	Thermometer.	Maximum.	Minimum.	Height in Feet.	REMARKS.
0 1 11	..	..	..	..	98	60	..	Saving of 1 m. 1 f. 137 y. 2 ft. 1 in. by not going into the trap. This distance may still be shortened by taking the straight road.
30 11 20	..	..	..	..	..	..	..	
30 3 30	..	204.3	24.55	83	89	54	4060	
29 53 40	..	204.6	24.60	72	..	..	3900	B. P. 200 yards on east of U-Gwelo August 10.
29 50 10	..	204.8 205.0	25.25 24.90	48 71	.. 95	.. 53	.. 3686	
..	..	..	..	..	..	..	..	Less by about 300 yards, on account of difference in outspan place.
29 38 40	..	..	..	..	..	..	..	
29 31 40	..	..	..	..	93	68	..	
29 30 0	..	..	..	..	100	..	..	
29 28 10	..	..	..	..	..	55	..	Meet Watson with 8 of our oxen from Inyati, to assist us.
29 23 30	..	..	..	59	..	..	..	
29 21 40	..	..	..	86	95	..	..	Very dry. No grass for oxen.
29 19 0	..	..	..	61	..	..	..	
29 13 30	E. Mohr, lunar	204.2	24.62	84	..	..	4115	The west corner of the Rev. T. M. Thomas's house, bearing 330 $\frac{1}{2}$ a mile.
29 13 0	..	204.2	24.65	82	94	63	4115	Heavy rains. Rainfall at Inyati 0.47 inch.
29 11 0	..	204.6	24.77	71	..	..	3900	Near Umnyakangya's village.
29 8 20	..	..	..	..	83	63	..	

## APPENDIX—

Date.	Place.	Trocheameter.	Latitude. South.	Nature of Observation.
1870		m. fur. yds. ft. in.	° ' "	
Apr. 8 ..	From Kumalo, north side, turn south of the main road, Kaami Route, cross to south of watershed, pass Um-thlat-lan-laylor on our left.	3 4 15 2 0	20 16 38 20 19 0	2 stars D R
,, 8 P.M.	Cross River Umthenyani.	5 5 214 0 2	20 19 30	D R
,, 8 P.M.	Gibbeklaike the King Lo-Bengulu's new town.	3 3 167 2 3	20 18 11	3 stars
,, 18 ..	Down the south-east face of the mountain, crossing the Inzingwaine, to make a new kraal for the King, circuitous route.	* 11 3 54 1 11	20 22 46	5 stars
,, 26 ..	From Gibbeklaike to abreast of the old village of Lo-Bengulu, on our left.	3 1 125 0 2	20 16 0	D R
	To rivulet going to Flamba Boloji River or Umkhosi.	1 2 153 1 9	20 15 30	D R
,, 26 ..	Stick-fast Rivulet .. ..	1 0 198 0 11	20 14 40	..
,, 27 ..	Pass Umzinyati village on the Umkhosi or King River, on which is Slambo Boloji.	5 By estimation	20 11 0	..
,, 27 P.M.	Cross Zizibantu River, pass Inthaba Induna on our left, and cross rivulet.	8 6 152 0 4	20 5 18 20 6 0	2 stars ..
,, 28 ..	Cross Coeghla Rivulet and pass north of Inzingwaine Hill, $\frac{1}{2}$ mile.	4 7 141 2 10	20 1 0	..
,, 28 P.M.	Pass Elibaine's, on rivulet running to Um-Bembesi.	6 2 125 2 6	19 55 30	..
	South of the Zong in Thaba hills.	4 5 171 1 9	19 51 40	..
,, 29 ..	Cross Bembesi south of Zong in Thaba hills.	5 1 179 2 6	19 47 20	..
,, 29 P.M.	Cross In Quenquis and reach Inyati, the London Mission Society's Station.	7 6 197 2 10	19 40 48	E. Mohr. Crucial Station.
	Total Kumalo to Inyati by Gibbeklaike.	61 2 30 2 0	..	..
May 9 ..	From Inyati, eastward, to the south of the main road.			
	To flat, Sokhele's Kraal, north-west 1 mile.	6 3 76 2 7	19 41 38	4 stars
	Carried forward .. ..	6 3 76 2 7		

\* To be omitted in adding up.—[T. BAINES.]

continued.

Longitude. East.	Nature of Observation.	Boiling Point.	Barometer.	Thermometer.	Maximum.	Minimum.	Height in Feet.	REMARKS.
28 41 0 28 46 0	Dead reckoning	204°	80°	75	..	..	4221	The country is tolerably well wooded from Kaami up to this. The heights of the watershed become gradually more bare.
28 47 30	D R	Position of town of Um-thlat-lan-laylor nearly the same as Kaami route. Boiling-point about the same.						At Gibbeklaike the cattle were lung-sick. I sent ours to stay near Kumalo.
28 52 0	D R	..	..	..	..	..	..	The footpath is about 8 miles. Difference of latitude 0° 4' 35".
28 57 0	D R	..	..	..	..	..	..	The old village of Bangulu is as far on the north side of the watershed as Gibbeklaike is south.
28 51 0	D R	..	..	..	..	..	..	Heavy rains and black adhesive mud.
28 51 40	..	..	..	..	..	..	..	Inthaba Induna (hill of chief). Several chiefs were killed here for electing a king, while Umselegas was away at Zambesi.
28 52 10	..	..	..	..	..	..	..	Umnombuti declares Kuruman was killed here.
28 54 30	Village $\frac{1}{2}$ mile west.	..	..	..	..	..	..	Lo-Benzulu was saved by a man who hid him in the shield-house by order of Umselegas.
28 59 0	D R	Position of the Inthaba Induna approximate.						The Zong in Thaba rebel regiment is now annihilated.
28 57 0	..							Very heavy rain as we crossed the river. Mr. Sykes' house bears north-west $\frac{1}{4}$ mile south-west from our outspan.
29 1 0	..	..	..	..	..	..	..	
29 6 30	..	..	..	..	..	..	..	
29 8 20	..	..	..	..	..	..	..	
29 10 30	..	..	..	..	..	..	..	
29 13 30	E. Mohr	204° 2	..	..	..	..	4115	
29 19 10	D R	..	..	..	..	..	..	

## APPENDIX—

Date.	Place.	Trocheameter.					Latitude. South.	Nature of Observation.
		m.	fur.	yds.	ft.	in.	° ' "	
1870	Brought forward .. ..	6	3	76	2	7	° ' "	
May 10 ..	Pull through rain swamp, and outspan.	3	4	78	0	0	19 42 30	D R
,, 10 P.M.	Sink in mud to the axles, break dessel boom.	0	4	70	1	9	19 42 30	..
,, 11 ..	Two hard treks through muddy soil, cross rivulet. Watson shoots a wolf.	1	6	68	2	6	19 42 20	..
,, 12 ..	Muddy hill and dale, wooded eountry.	0	7	33	2	9	19 42 20	..
,, 12 P.M.	Cross from spruits of the Songwe River, and outspan by the largest pool Jing- Eus, and below it.	3	0	142	1	5	19 42 20	..
,, 13 ...	Cross rivulet running to Changane.	6	0	61	2	11	19 42 0	..
,, 13 P.M.	Pass Inyangane or the Doctor's village, M'Sonto's, and out- span near it.	6	7	105	2	8	19 42 10	..
,, 14 ..	$\frac{1}{4}$ mile north of Manpanjēni or Umbanjin, on M'nyami or Black River.	5	6	123	2	9	19 42 39	4 stars
	Total from Inyati Mis- sion Station to Man- panjēni.	35	0	102	1	4		
,, 18 ..	From Manpanjēni or Um- banjin, across Changani and Dumas or Thomas Route, is a grassy ridge with thorns.	5	7	162	0	4	19 42 39 19 38 50	4 stars D R
,, 19 ..	Cross Tyabensi River below islet.	2	4	57	8	6	19 37 10	..
,, 19 P.M.	Cross Little Route. Grassy slope. Mopanies.	5	6	144	0	1	19 34 20	..
20 ..	Cross swampy valley, wooded slope.	1	7	61	2	5	19 33 30	..
,, 20 P.M.	Cross Little Um-Vungu, 30 yards wide.	3	4	213	0	2	19 31 40	..
,, 21 ..	Cross Great Um-Vungu ..	2	5	180	2	0	19 30 30	..
,, 21 ..	Cross last spruit of Um-Vungu	4	4	214	2	11	19 28 0	..
,, 21 P.M.	Cross Umignamo or Knife River.	0	3	30	1	11	19 27 46	4 stars
,, 24 ..	Come to Makapukapa River	6	1	59	2	3	19 22 40	..
,, 24 P.M.	Cross Makapukapa and U. Gwelo to hill $1\frac{1}{2}$ mile beyond.	2	7	0	1	2	19 21 23	4 stars
	Carried forward .. ..	35	5	25	0	9		



continued.

Longitude. East.	Nature of Observation.	Boiling Point.	Barometer.	Thermometer.	Maximum.	Minimum.	Height in Feet.	REMARKS.
29 22 50	..	..	..	..	..	..	..	Country swamped with heavy and long continued rains. The waggons sink nave-deep generally, and often to the axles.
29 23 10								
29 24 10	..	..	..	..	..	..	..	Very cold, damp and misty. Waggon-wheel ploughs up an eatable frog from its burrow: extreme length 15 inches.
29 25 10								
29 28 0	..	..	..	..	..	..	..	Very heavy Deurslag. From this we get harder ground, country generally more or less wooded; more bare towards the watershed on our right or south, and denser in the lower country on our left or north
29 33 10								
29 40 0								
29 44 10	..	..	..	..	..	..	..	Umbainjin or Manpanjēnē is Umnomba's village, but at this date he was away at the king's. We came here on the present occasion to buy corn and goats, and hire men for the journey.
29 44 30	D R							
29 47 0								
29 49 0	..	204·8	..	65	..	..	3793	River-banks, black mud; one hour making a drift; shower at noon; gentle continued rain at night. Waggons sink to axles in heavy Deurslag.
29 52 30								
29 53 40								
29 55 30	..	204·8	..	..	..	..	3793	Joins Great Um-Vungu about 6 miles below.
29 57 40								
30 0 10	..	204·8	..	..	..	..	3793	Rocky rivulet, deep lanes.
30 0 50	..	..	..	..	..	..	..	Past spruit of U-Gwelo.
30 3 20	..	..	..	..	..	..	..	Outspan to make a drift.
30 4 40	..	..	..	..	..	..	..	Iuthaba Khoboli 4 or 5 miles north-west.

## APPENDIX—

Date.	Place.	Trocheameter.	Latitude. South.	Nature of Observation.
1870	Brought forward .. ..	m. fur. yds. ft. in. 35 5 25 0 9	° ' "	
May 25 ..	Elevated plain, grove of khondjie or ughondjie-trees	7 0 183 0 10	19 15 0	..
„ 25 P.M.	Reach the road at Lunda Route.	5 6 31 1 7	19 10 55	3 stars
„ 26 ..	Cross Inchamba Route.	4 1 184 0 4	19 10 0	..
„ 26 P.M.	Cross U-Quaequae River, and outspan in grove 400 yards south-east of drift.	5 4 184 2 2	19 7 25	8 stars
	Total Manpanjēnē to U-Quaequae.	59 2 168 2 8		
July 13 ..	From Hartley Hill cross Um- fuli and south-east to the hunter's convalescent camp.	9 7 84 0 8	18 7 52	1 star
„ 14 ..	Cross sources of Zinlundasi old camp.	8 7 10 0 1½	18 25 37	☾
„ 14 P.M.	Cross Umzweswe River near its source.	7 7 71 1 4	18 29 26	3 stars]
„ 15 ..	Cross sand spruit going north	6 4 91 1 10	18 27 0	D R
„ 15 P.M.	Cross four sand spruits come to another old camp.	8 4 3 1 10	18 24 40	..
„ 15 ..	Cross mud spruit .. ..	4 5 15 2 3	18 28 15	2 stars
„ 16 ..	Cross small and large spruit or Umgesi.	9 5 7 2 8	18 35 0	D R
„ 16 P.M.	Cross small spruit, stop short of deep spruit.	6 3 35 0 11	18 37 49	3 stars
„ 18 ..	Cross spruit of Umyati ..	9 7 45 2 4	18 42 49	☾
„ 18 P.M.	Cross the watershed Umti- gesi high lands, to spruit of Umsaobie.	7 1 49 2 8	18 44 40	1 star
„ 19 ..	Cross Poromadjen Route in valley.	6 4 147 2 3	18 45 0	D R
„ 19 P.M.	Cross Kitorok and Sepowie River and to Umtigezas village.	6 0 103 0 5	18 47 46	2 stars
	Total Hartley Hill to Umtigezas.	92 1 6 1 3½		
	Hartley Hill to Willie's grave	13 direct line E.S.E.	18 16 40	D R
	Down Umfuli on foot .. ..	25 winding course north-west.	18 1 30	D R
	To extensive abandoned work- ings.	21 nearly through N.W. by N.	18 0 0	..
	To workings resumed by Mas unas.	60 winding course N.N.W.	17 31 30	..

continued.

Longitude. East.	Nature of Observation.	Boiling Point.	Barometer.	Thermometer.	Maximum.	Minimum.	Height in Feet.	REMARKS.
° ' "								
30 4 0	..	..	..	..	..	..	..	Grassy open country.
30 4 0	..	..	..	..	..	..	..	Patches of mopanie ug- hondie and other trees.
30 8 0	..	..	..	..	..	..	..	Inthaba Umquaqua and sources of Ingwamy, south-west.
30 1 20	..	..	..	..	..	..	..	Inthaba Siloquamdo and Siloquamdo rivulet S.E.
30 54 10	D R	..	..	..	..	..	..	Inthaba Sequaequae, N. From this we pro- ceeded by former road going direct to Hartley Hill.
30 58 0	..	205·6	28·55	74	..	..	3367	On the old road, by Zin- lundasi route.
31 2 0	..	205·6	..	..	..	..	3420	Probably on source of Zinlundasi.
31 7 0	..	..	..	..	..	..	..	In returning, a lion bites one ox fatally, and at- tacks another.
31 13 40	..	..	..	..	..	..	..	Leak's road turns north.
31 15 30	..	295·4	Sand belt before reaching Umgesi.				3473	Thaba Enzimbe Iron Mountain, S.S.E.
31 20 20	..	205·3					3526	
31 24 50	..	205·1	..	..	..	..	3632	Samara wooded. Sand belt, after crossing Um- gesse.
31 31 50	..	204·0	..	..	..	..	4221	Thaba Enzimbe, W.S.W. Umyati goes south of Thaba Enzimbe.
31 37 00	..	203·1	27·90	..	..	..	4703	On the watershed.
31 41 30	..	204·7	..	..	..	..	3846	Granite hills on each side.
31 46 20	..	204·3	..	78	..	45	4060	On rough granite hills. We buy corn and pack- oxen, sheep and goats.
30 59 10	D R	W. J. Hartley, 29th May, 1870.						Inscription on tree, W. J. H. 29/5/70.
30 31 0	D R	206·0	..	..	..	..	3154	Tsetse fly.
30 36 0	..	With Mr. Hartley in vicinity of old round Portuguese house.						
30 32 0	..	With George Wood to his camp near Amakoonda's.						

LONDON:  
Printed by WILLIAM CLOWES and SONS, Stamford Street,  
and Charing Cross.





